

Minimum wage increase is adversely affecting informal employment

Ozan Bakış*, Seyfettin Gürsel†, Melike Kökkızıl‡

Executive Summary

Various effects of minimum wage increased in January 2016 by 30 percent are still question of debate. One of the concerns for the possible effects of this high increase is on wage-employment relation. More specifically, it stands an important question about the effect of wage increase; in which direction and to what extent it will affect the informality among wage earners. Even though relevant studies from several countries claim that the effect of minimum wage hike has no significant effect on employment, they reveal an adverse effect on informal employment. In the context of Turkey, the studies establish that relatively same increase of minimum wage recorded in 2004 has an impact on informality, albeit related publications are few. It is too early to make a comprehensive research on the effects of the recent rise in minimum wage. Nevertheless, this study illustrates a notable indication that minimum wage increase is adversely affecting informality based on the large differences observed in the share of minimum wage earners in sectors and informality rates in sectors in the period of February 2014-2015 and February 2015-2016.

Minimum wage increase and informality

Informal sector, which debar the employees from the legal rights such as social security, retirement, and legal working hours along with depriving the state of a considerable amount of taxes, stands as one of the main problems of economy in Turkey. In recent years, informality, especially among wage earners, has exhibited a remarkable decline. However, most of the employees in the agricultural sector (81 percent of them), more than half of the self-employed (53 percent of them), and 18 percent of the wage earners are still working informally. Furthermore, Turkey remains one of the countries with highest ratios for informality among OECD countries.

Relying on the large decrease of informality in 2004-2015 from 50 percent to 33.6 percent, Turkish government, as presented in their economic program, constantly emphasize that the informality rate will continue to decline. However, high increase in minimum wage in January 2016 poses a risk of disrupting the expectations for a while. In this research brief, we attempt to revive this risk to become actualized with our preliminary findings.

It is not possible to mention that the economics literature has a definite consensus of the effects of minimum wage on employment. Though, the literature considering various sources finds the effects in

* Assoc. Prof., Betam, senior researcher, ozan.bakis@eas.bau.edu.tr

† Prof., Betam, director, seyfettin.gursel@eas.bahcesehir.edu.tr

‡ Betam, research assistant, melike.kokkizil@eas.bau.edu.tr

two directions. General argument on its effects on total employment is insignificant and most of the studies point out an adverse effect on informal employment. On the other hand, there are two important research focusing on the effects of the minimum wage increase in 2004 on informal employment among wage earners. The study of Pelek (2015) shows that minimum wage increase does not significantly affect total employment of youth and low-educated young but it has notable effect on informal employment. One of the recently published paper from Central Bank, Yüncüler and Yüncüler(2016), finds that minimum wage increase in 2004 raises the wages of both formal and informal employees, however, they find a significant increase informal employment, albeit an insignificant effect on total employment. In this research, we investigate the effects of the minimum wage increase in the beginning of 2016 on informal employment. Preliminary results give the impression of an adverse effect on informal employment.

Informality and wage distribution by sectors

This study includes two data sources. First of them is 2014 Household Labor Force Micro dataset, where we use for each sector to calculate the share of wage earners earning minimum wage or less. Another data source is the on-line labor force statistics downloaded from the website of Turkstat. Specifically, we use the new series, titled as "Labor Force Statistics (Results from 2014 onwards)", which is accessible from the website of Turkstat placed in the section of Labor Force Statistics with the heading of Dynamic Search.

Informal employment is very widespread especially in the sectors of "Agriculture, Forestry and Fishing" (higher than 80 percent) and "Other Social, Community and Personal Service Activities "(around 45 percent), respectively. On the contrary, informality is infrequent (5 percent or less) in the sectors of "Mining and Quarrying", "Public Administration and Defense; Compulsory Social Security", "Financial and Food Service Activities", and "Education". Lastly, the remaining sectors have an informality rate in the range of 10 percent and 35 percent.

Looking at the share of the employees earning minimum wage or less, we observe that in sectors with a relatively higher informality, low-wage earners (minimum wage and less) compose almost half of the sectoral employment. Similarly, we see that employees working for minimum wage or less have low shares in the sectors with low informality rate.

Early findings point out an increase in informality

Minimum wage increase in January 1 of 2015 from 1000TL to 1300TL, allows us an opportunity to examine on direction for the effect of this natural experiment in terms of informal employment. Nonetheless, we have to wait until Turkstat to publish the micro dataset for the year of 2016 for an extended research. (most probably until 2017).

Although it is hard to give a precise answer to what extent minimum wage increase affects informal employment using available data, it provides some insights. The method used in this regard can be summarized as follow: we calculate the ratio of the full-time employees earning minimum wage or less at the sectoral level using 2014 micro dataset of Household Labor Force Survey. If there is an adverse effect on informal employment, then we expect to observe this effect more intensely in the sectors having higher share of minimum wage earners. Hence, comparing the informal employment rate for each of the sectors, we can test whether the sectors observed a high increase rate of informal employment employ

Figure 1: Relationship between share of minimum wage earners and change in informal employment



Source: LFS 2014 micro data ve and Labor Force Statistics (<http://www.tuik.gov.tr>, accessed on 03.06.2016.) **Note:** A:Agriculture, Forestry And Fishing; B:Mining And Quarrying; C:Manufacturing; DE:Electricity, Gas, Steam, Air Conditioning Supply, Water Supply And Sewerage Etc.; F:Construction; G:Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles; H:Transport And Storage; I:Accommodation And Food Service Activities; J:Information And Communication; K:Financial And Insurance Activities; L:Real Estate Activities; M:Professional, Scientific And Technical Activities; N:Administrative And Support Service Activities; O:Public Administration And Defence; Compulsory Social Security; P:Education; Q:Human Health And Social Work Activities; R:Arts, Entertainment And Recreation; STU:Other Social, Community And Personal Service Activities

minimum wage earners more intensely or not.

To dealing with seasonal effects, we compare the employment statistics of February of 2016 with same month in the previous year. If our hypothesis is true, then we expect a positive correlation with two indicators. On the contrary, under the same argument we do not expect a positive correlation between increase in sectoral informal employment from 2014 to 2015 and informality rate for the data comparing February 2015 with February 2014 since large minimum wage increase did not occur in this term.

To distinguish full-time employment from part-time, Household Labor Force Survey considers usual working hour at the main job. In other words, they define the employees as full-time employees if the usual working hours are 35 or higher. Accordingly, we only consider those usually working 35 hours or more while calculating the ratio of the employees earning minimum wage or less. Note that, even though we assume the usual working hours to define full-time employees must be 40 hours or more, the result does not change significantly (See Figure 2).

As seen in the top panel of Figure 1, informality during February 2014 to February 2015 decreased almost in each sectors. Even informality exhibit increases in the sectors of "Electricity, Gas, Steam, Air Conditioning Supply, Water Supply and Sewerage etc" and "Human Health and Social Work Activities", overall tendency during this term is prominently downside. Bottom panel of Figure 1 indicates that informal employment change from February 2015 to February 2016. Clearly, in this period, we see an upward looking tendency after the minimum wage hike; the higher share of minimum wage earners, the higher increase in informal employment.

Results and caveats

The result validates the increase of informal employment due to the minimum wage increase in January 1 of 2016. Nonetheless, it is useful to remind several crucial points placed in the debate of minimum wage: The results revealed in this research brief are obtained through aggregate data, so it is better to be precautionous. More detailed analysis on the relationship between minimum wage and informality can be examined when the micro dataset is available. Another important point is that, despite assuming an increasing effect of minimum wage hike on informal employment, it is crucial to question to what extent its effect on informality is persistent. In other words, if informality turns back to the initial levels in the short-run, this effect may not matter. Finally besides increasing labor cost, minimum wage increase has some social benefits in terms of narrowing inequality and enhancing welfare among low-income groups. In spite of its cost, a higher minimum wage may be socially optimal. The ultimate answer to social cost and social benefits lies behind how much the weighting are given to them.

References

- [1] Pelek, Selin (2015). The Employment Effect of the Minimum Wage: An Empirical Analysis From Turkey, *Ekonomi-tek*, 4(1), 49-68.
- [2] Yüncüler, H.B.G. and Ç. Yüncüler (2016). Minimum Wage Effects on Labor Market Outcomes in Turkey, TCMB Working papers No:16/14.

Additional tables and figures

Table 1: Wage income of full-time (working at least 35 hours a week) workers

	Workers earning minimum wage or below		Workers earning above minimum wage	
	Number of workers	Share (%)	Number of workers	Share (%)
A. Agriculture, Forestry And Fishing	148.959	48.1	160.808	51.9
B. Mining And Quarrying	110.815	89.5	13.031	10.5
C. Manufacturing	3092.378	78.4	850.838	21.6
DE. Electricity, Gas, Steam, Air Conditioning Supply, ...	146.547	90.4	15.612	9.6
F. Construction	974.792	80.5	235.782	19.5
G. Wholesale And Retail Trade; ...	1515.063	76.3	470.591	23.7
H. Transport And Storage	591.0	83.7	115.019	16.3
I. Accommodation And Food Service Activities	671.568	75.6	216.963	24.4
J. Information And Communication	161.657	91.2	15.636	8.8
K. Financial And Insurance Activities	254.344	95.8	11.232	4.2
L. Real Estate Activities	102.518	77.1	30.499	22.9
M. Professional, Scientific And Technical Activities	418.310	87.2	61.338	12.8
N. Administrative And Support Service Activities	768.603	80.9	182.055	19.2
O. Public Administration And Defence; ...	1297.214	96.2	51.841	3.8
P. Education	742.231	91.6	67.851	8.4
Q. Human Health And Social Work Activities	636.133	70.8	262.884	29.2
R. Arts, Entertainment And Recreation	172.338	88.8	21.638	11.2
STU. Other Social, Community And Personal Service Activities	169.941	52.2	155.756	47.8
Total	11974.410	80.3	2939.371	19.7

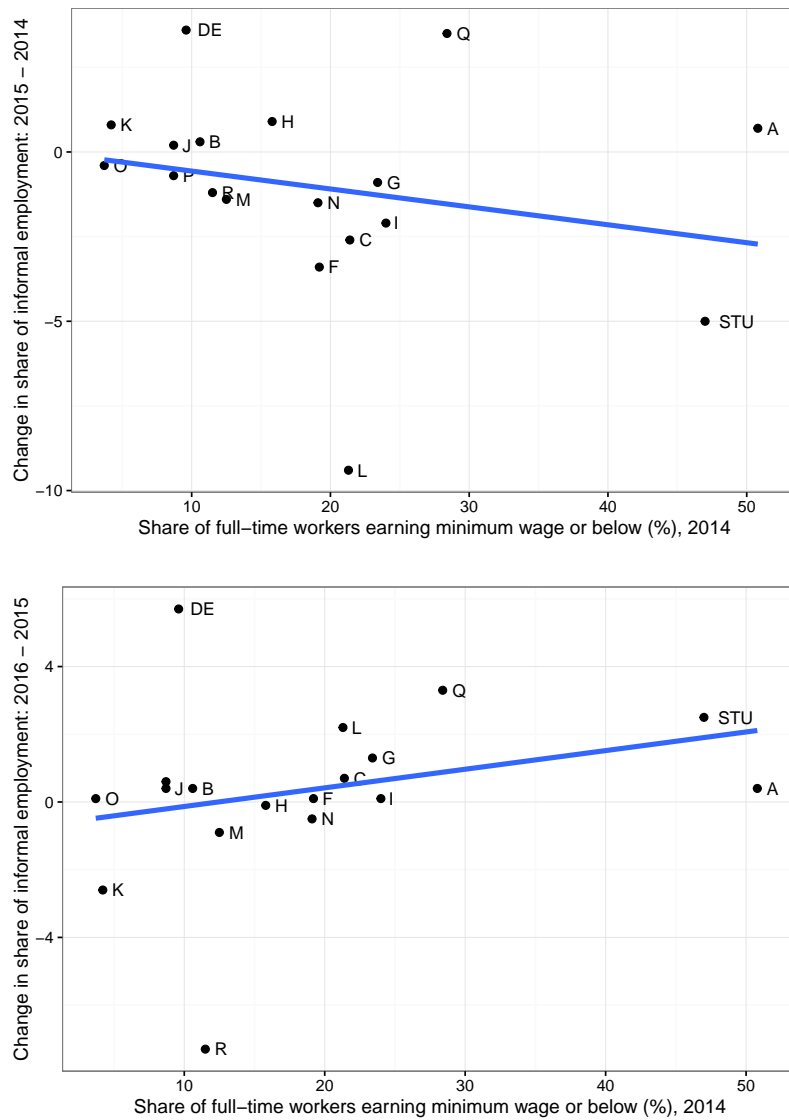
Source: LFS 2014 micro data.

Table 2: Wage income of full-time (working at least 40 hours a week) workers

	Workers earning minimum wage or below		Workers earning above minimum wage	
	Number of workers	Share (%)	Number of workers	Share (%)
A. Agriculture, Forestry And Fishing	146781	49.2	151717	50.8
B. Mining And Quarrying	110364	89.4	13031	10.6
C. Manufacturing	3085623	78.6	839778	21.4
DE. Electricity, Gas, Steam, Air Conditioning Supply, ...	146225	90.4	15546	9.6
F. Construction	970072	80.9	229804	19.2
G. Wholesale And Retail Trade; ...	1508264	76.6	461492	23.4
H. Transport And Storage	584870	84.2	109701	15.8
I. Accommodation And Food Service Activities	668061	76.0	211151	24.0
J. Information And Communication	160896	91.3	15252	8.7
K. Financial And Insurance Activities	253504	95.8	11232	4.2
L. Real Estate Activities	100160	78.7	27163	21.3
M. Professional, Scientific And Technical Activities	415952	87.5	59557	12.5
N. Administrative And Support Service Activities	763681	80.9	179982	19.1
O. Public Administration And Defence;...	1288560	96.3	49584	3.7
P. Education	682607	91.3	64884	8.7
Q. Human Health And Social Work Activities	627754	71.6	248653	28.4
R. Arts, Entertainment And Recreation	160157	88.5	20886	11.5
STU. Other Social, Community And Personal Service Activities	167926	53.0	148779	47.0
Total	11841457	80.6	2858192	19.4

Source: LFS 2014 micro data.

Figure 2: Relationship between share of minimum wage earners and change in informal employment: when full-time employment is defined as working at least 40 hours a week



Source: LFS 2014 micro data ve and Labor Force Statistics (<http://www.tuik.gov.tr>, accessed on 03.06.2016.) **Note:** For sectoral classification see the below Figure 1.

Table 3: Formal and informal employment by year (February data)

	Kayıtlı istihdam(Şubat)			Kayıt dışı istihdam (Şubat)			Sektörel kayıt-dışılık oranı		
	2014	2015	2016	2014	2015	2016	2014	2015	2016
A. Agriculture, Forestry And Fishing	1,011	924	925	4,044	3,858	3,951	80.0%	80.7%	81.0%
B. Mining And Quarrying	119	112	105	7	7	7	5.6%	5.9%	6.3%
C. Manufacturing	3,948	4,079	3,968	1,039	910	926	20.8%	18.2%	18.9%
DE. Electricity, Gas, Steam, Air Conditioning Supply, ...	178	167	171	67	75	99	27.3%	31.0%	36.7%
F. Construction	1,121	1,102	1,182	636	539	582	36.2%	32.8%	33.0%
G. Wholesale And Retail Trade; ...	2,512	2,681	2,695	923	939	1,008	26.9%	25.9%	27.2%
H. Transport And Storage	841	822	898	261	268	291	23.7%	24.6%	24.5%
I. Accommodation And Food Service Activities	808	936	959	397	417	429	32.9%	30.8%	30.9%
J. Information And Communication	186	218	218	25	30	31	11.8%	12.1%	12.4%
K. Financial And Insurance Activities	283	297	312	11	14	6	3.7%	4.5%	1.9%
L. Real Estate Activities	141	175	190	62	47	58	30.5%	21.2%	23.4%
M. Professional, Scientific And Technical Activities	549	661	726	78	82	82	12.4%	11.0%	10.1%
N. Administrative And Support Service Activities	919	1,091	1,216	165	174	186	15.2%	13.8%	13.3%
O. Public Administration And Defence; ...	1,377	1,449	1,398	57	53	52	4.0%	3.5%	3.6%
P. Education	1,316	1,429	1,618	46	39	55	3.4%	2.7%	3.3%
Q. Human Health And Social Work Activities	735	788	825	205	267	331	21.8%	25.3%	28.6%
R. Arts, Entertainment And Recreation	79	85	99	46	47	39	36.8%	35.6%	28.3%
STU. Other Social, Community And Personal Service Activities	421	456	449	382	338	369	47.6%	42.6%	45.1%

Source: TurkStat Labor Force Statistics (online). More specifically, we use "Labor Force Statistics (Results from 2014 onwards)", which is accessible from the website of Turkstat placed in the section of Labor Force Statistics with the heading of Dynamic Search. Only, workers aged 15+ are considered.